

### **Remarks**

Applicant hereby responds to the Office Action mailed December 17, 2004.

Applicant respectfully traverses the rejection of the pending claims as being obvious in view of the prior art. In accordance with the telephone interview on October 11, 2005 between the Examiner and applicant's undersigned attorney, and as requested by the Examiner, applicant submits argument and evidence that secondary considerations of non-obviousness adequately support the allowability of the claims. Applicant respectfully requests withdrawal of the rejection and allowance of the application.

The Supreme Court has instructed that all evidence of patentability be considered in deciding the questions of obviousness under 35 USC 103. *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

Under US patent law, the discovery of the source of a problem, and the subsequent solution to that problem, are together an "invention" that is patentable. See *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45 (1923): In the type of machine at issue in *Eibel*, pulp stock flows onto a moving wire cloth in order to drain water out of the stock over the 30 foot length of the cloth. Prior art machines caused ripples and tearing in the paper stock at a downstream location on the wire cloth. The variation that Eibel made was simple—he increased the pitch of the wire cloth, in order to use gravity to increase the rate of flow of the pulp on the wire cloth to equal the rate of flow of the wire cloth itself. Eibel's invention thus lay in identification of the source of the problem with the machines:

“[W]e must not lose sight of the fact that one essential part of Eibel's discovery was that the trouble causing the defective paper product under high machine speed was in the disturbance and ripples some ten feet from the discharge and that they were due to the unequal speeds of stock and wire at that point and could be removed by equalizing the speeds. The invention was not the mere use of a high or substantial pitch to remedy a known source of trouble. It was the discovery of the source of trouble. It was the discovery of the source not

before known and the application of the remedy for which Eibel was entitled to be rewarded in his patent. Had the trouble which Eibel sought to remedy been the well known difficulty of too great wetness or dryness of the web at the Dandy roll and had he found that higher rather than a low pitch would do that work better, a patent for this improvement might well have been attacked on the ground that he was seeking monopoly for a mere matter of degree. But that is not this case. On the other hand, if all knew that increased speed of the stock would remedy it, doubtless it would not have been invention on his part to use the pitch of the wire to increase the speed of the stock when such pitch had been used before to do the same thing although for a different purpose and in a less degree. We can not agree with the Circuit Court of Appeals that the causal connection between the unequal speeds of the stock and the wire, and the disturbance and rippling of the stock, and between the latter and the defective quality of the paper in high speeds of the machine was so obvious that perception of it did not involve discovery which will support a patent. The fact that in a decade of an eager quest for higher speeds this important chain of circumstances had escaped observation, the fact that no one had applied a remedy for the consequent trouble until Eibel, and the final fact that when he made known his discovery, all adopted his remedy, leave no doubt in our minds that what he saw and did was not obvious and did involve discovery and invention.”

In *Eibel*, then, the art knew of the problem: the tearing of the paper. The art did not know the source of the problem: unequal speeds. The inventor found the source of the problem, and then solved it. The solution, which in hindsight was relatively simple, was deemed patentable by the US Supreme Court in these circumstances.

A similar situation applies in the present application. Here, the art knew of the problem: malfunctioning slack adjusters. The art did not recognize the source of the problem: gear to housing engagement. The inventors herein discovered the source of the problem, and found a solution. This invention should be deemed patentable.

More specifically, and as discussed in detail in the attached Affidavit, the art relates to slack adjusters and, in particular, to automatic slack adjusters (ASA). Automatic slack adjusters were introduced about 15 years ago. An automatic slack adjuster adjusts automatically by its own internal force resulting from brake application, with friction clutches and other small moving parts. The amount of adjusting force involved can easily be less than the resistance caused by the unintended engagement of the gear with the housing. So the ASA might not adjust when it should, and the driver

might say, "the brakes aren't working right". The ASA would be pulled and replaced with a new one.

But, as the affidavit shows, for a long time, no one discovered the cause and effect relationship between the gear engagement and the inoperability. In this invention, however, the inventors herein discovered that the worm gear would engage the housing enough to resist the adjustment forces, causing the malfunctioning noted. Thereafter came the solution, and this patent application.

One might argue that once the inventors discovered the problem, it would make sense to add a bearing. But these ASA devices were in use for more than a decade before anyone discovered the source of the problem. To quote the *Eibel* case, "The fact that in a decade of an eager quest for higher speeds this important chain of circumstances had escaped observation, the fact that no one had applied for a remedy for the consequent trouble until Eibel, and the final fact that when he made known his discovery, all adopted his remedy, leave no doubt in our minds that what he saw and did was not obvious and did involved discovery and invention."

Applicant submits, in view of the evidence in the attached Affidavit, that in this case, as in the *Eibel* case, there is invention. Therefore, the obviousness rejection should be withdrawn, and Applicant requests allowance of this application.

Respectfully submitted,

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